Reasons Why Italian Catholics Should Not Break the Polley of the Church for 80 Years, and Enter Into Active Polities,

Rows, Aug. 5.-The dominant preoccupation of the Italians and of the Triple Alliance just now, on the eve of the elections, is the Ne elettors nd rieki. Will the Vatican continue to prohibit the Catholies from going to the ballot boxes? Since the 1st of October, 1801, the day when the Emperor Francis Joseph, echoing the Gormans and the wishes of Prince Bismarck, intervened through influential Cardinals around Leo XIII., to "equilibriate" the policy of the Pope and lead him away from France and democracy by proposing, as an object, the conciliation of the two powers, and, as the means, the Participation of the Italian Catholies in Italian polities, this subject has formed the basis of all Italian, Austrian, and German efforts in Rome. All sorts of promises have been made, and the work still goes on. King Humbert is about to appeal to the country. Consequently, a favorable opportunity is presented for studying closely the problem of Participation, which touches both the interests of Italian politics and the fundamental conditions of European diplomacy. We will commence with Italy, and finish with the powers outside. Let us suppose that an Italian Catholic, of a type such as we often find even among the most devoted partisans of the Holy See, should come here and plead the cause of Participation. In substance, this would be his argument:

Nobody denies that the Church and the Papacy are passing through a most painful and critical phase in Italy; but nothing has contributed so much to aggravate this situation as the adhesion of the Catholies to the absurd and fatal formula invented by Don Margotti, Ne eletti ne elettori. I deplore as much as anybody the evils and vexations which today weigh upon the Pope and the Italian Catholies: but how many of these evils and vexations could have been avoided if the Catholic party were represented in the heart of the great bodies of government. Everywhere else, in Germany, in Switzerland, in Belgium, in France, in Austria, and in Ireland, the Catholies take an active part in the struggles of political life. possess in the Parliamentary assemblies a compact, united, and strongly organized party, led by able and experienced leaders; and, whether in the majority or the minority, according to the vicissitudes of elections, they never cease to defend with courage and authority the ignored or threatened rights of the Church. If the Italian Catholics were allowed to imitate their brothers in other countries, would they not be able to give the same example and to obtain the same success? The signal triumphs obtained by the Belgian, German, and Swiss Catholics constitute a powerful and fruitful encourage ment. What has been achieved elsewhere can certainly be accomplished in Italy. Is not Italy the country in which Catholicism has taken the most profound root, and in which the masses of the population have remained most attached to the Church? "The conservative and Catholic party in the

peninsula at the present time is nothing: but let it be organized and brought into action, and to-morrow it will be everything. Official Italy represents only a bold and enterprising minority, but it is the timidity and inaction of its adversaries that form its principal strength. Let the Catholics go to the ballot boxes to-morrow, and a solid and valiant phalanx will come forth boldly to take at Montecitorio the defence of religious interests and bring before the public authorities the wishes and the desiderate of the Catholic popu lation, at present without organs and withou interpreters. To this minority there would soon be allied that floating and movable mass of liberals and moderates who to-day join in the chorus of the radicals, but who, conservatives at heart, would desire nothing better than to march with us. The laws which have struck a terrible blow at the rights and liberties of the Church, might perhaps have been seriously amended or even definitely cast aside. Respectable minurities, for example, have protested against the Penal Code, and against the law in regard to religious institutions. If the Catholics' votes had been joined to the votes of the liberals. who can say what might have happened? At all events a Catholic minority in Parliament would have been able to render most valuable services. It could ring out, sometimes not without efficacy, the prostances by influencing debates and votes. it might succeed in forcing the Government to fall back. A Catholic party would have little trouble in forming, because parliamentarism is on the verge of dissolution in Italy. Th old parties are dead, their leaders have disappeared, and the coast is absolutely clear for new party, which, instead of waging a bitter war of personal competitions, would come to represent in Parliament, not the hunt after offices and local ambitions, but the legitimate aspirations of the great majority of Italiana

But at the same time we must not deceive ourselves. In the present state of Europe at armed or diclomatic intervention of the powers in favor of the Papacy is hardly to be thought of. And even such an intervention. which would wound the Italian national sentiment in its most sensitive cords, might perhaps bring more damage than profit to the Papaor. The Italian Catholics ought to count only upon their own forces to solve the pontifical problem, and it is upon them alone that the Papacy must rest its hope of deliverance and safety. A pacific and sincere agreement between the Italian nation and the Holy See can alone procure for the Roman question a durable solution acceptable to the majority of the Italian people. But in order to attain this object, it is absolutely necessary for the Cath-olics to take part in political affairs, and to claim in all departments of public life the legitimate place which is their due. A Catho-He majority seated at Montecitorio, I repeat. would alone beable to bring over the Government to opportune and necessary concess sions. Such a majority, by displacing the axis of power, could put an end to the reign of persecutions practised by the present authorities and bring about the desired reconcilia the Vatican and the Quirinal Outside of this solution all the rest is merely Utoplan and chimerical. There is no need of hiding the fact that in

our days a party that abdicates is a beaten party. Nothing is more hurtful than the policy of emigration. Now the Abstention of the Catholics means emigration to the interior. The best and strongest forces of the nation remain in this way not only immobilized and sterilized, but left at the mercy of an audacious and unscrupulous enemy. This explains how an aggressive minority can to-day. without encountering resistance, impose upon Italy its hatreds and its passions, oppressing conscience, trampling upon the most sacred rights, and making of this bleased land of Catholicism the eldorado of Masonic atheism. The more we continue in these wanderings, the more we find that moral and religious rules become accumulated, and the more it be somes difficult when the moment arrives, to bring about a halt and a volte-face movement. and to inaugurate the era of restoration. Abstention brings about another consequence equally disastrous: the loss of the young men to the Church. Educated in universities there the instruction given is often hostile to their faith, our young men flud themselves also exposed to the temptations and the advances that come from a party which alone disposes of favors and places. Excluded from public life, if they remain faithful to their re-ligion. how many of these young men, through weakness, ambition, or solfishness, go to re-enforce the ranks of the enemies of the Church! Such is the disastrous result of the system of Abstention. It snatches from the action and the influence of Catholicism the

the Papacy the secular ground which alone can furnish shelter and security We might develop this theme and continue

this plea, but it seems to us that we have con densed here the principal arguments that the partisans of Participation can advance. We are far from ignoring their value; but some of them, as we shall see, are more specious that solid. In our opinion, they cannot counter-balance those which in the present condition of affairs can be advanced in support of abstention. If a superficial examination can make one embrace the cause of Participation. s profound knowledge of the state of things n Italy must lead to a contrary conclusion. It is necessary, therefore, to establish one essential distinction, the distinction which appears as the very knot of the problem that we have to solve. Two great questions which sometimes seem to be one, but which it is necessary to separate, are here brought into play; the Italian religious question, properly speaking, and the Roman question. Partisans of Participation would, perhaps, unwittingly be disposed to sacrifice the former to the lat ter. By considering only the interests of the Italian Church, we might in theory become won over to the cause of Participation; but when we look at the future of the Pon

tifical cause, we are obliged to some around entirely to the decision of the Holy Bee, which maintains the non expedit.

The veto of the Vatican does not imply, as everybody knows, any question of principle. As the words themselves indicate, it is simply an affair of expediency and opportunity. The Vatican declares to Catholics that just now it is neither advantageous nor opportune to take part in the Italian Parliamentary elections. But, outside of the superior reasons which lictate the attitude of the Holy See, it seems that from the simple point of view of political wisdom and human ability, its decision is

fully justified. No comparison can be established between the situation of the Catholies of other coun tries and that which has been created for the Catholics of Italy. Everywhere else, in France. in Belginm, and in Germany, the religious question, whatever form the conflict may assume, and whatever violence and persecution may be let loose, remains always an internal question, to be debated exclusively between the Catholics and the Governments of those countries. In Italy, on the contrary, the religious question, by becoming complicated with the Roman question, is above all things an international and cosmopolitan question. The Italian Catholics are not the depositaries of the interests which they have to guard; the entire Catholic world can be called in to pronounce its judgment upon the settling of these interests. The Pope is not the primate of the Church of Italy alone If that were the case, there would be no Roman question. But he is also the head of the iniversal church. The Italian Catholics are not simply soldiers whose duty it is to fight bravely; they are, if we may be permitted to make this comparison, the special guard of the sovereign Pontiff; and in an army the guard has not only the honor of the flag to de fend, but it must also, and above all things watch over the person of the sovereign. The fact that the Papacy resides in Italy imposes therefore, upon Italian Catholics rules and duties which differ from those of their brethren n other lands.

We do not dispute or ignore the fact that the Italian Catholics, if their ranks should be-some filled and their forces organized, following the example of the German, Swiss, and Balgian Catholics, might exercise in the political field a profitable activity in the interest o religion. But the question is just how far this sphere of activity would reach, and whether i would embrace the primordial cause of the Catholic Church. We mean the Roman ques tion: and now we can understand the hesitation and the soruples of th Holy See.

In the first place, the appearance of the Italian Catholics upon the field would be preeded by a period of groping in the dark and of trials, a period difficult and delicate in which many rights and interests might be swamped that are as yet untouched to-day. It is very true that the old liberal parties, on secount of their extreme divisions, which amount now to crumbling, are reduced to impotence, and that Italian parliamen tarism is in full decomposition. But the most immediate result of Farticipation would be to give to this exhausted organism a new lease of life and youth, and to reen force the present political régime. Divided among themselves now, the liberal parties, the day when the Catholics should appear a the ballot boxes, would march to the polls more united and more compact than ever. Participation would furnish them with the common platform which they are vainly seekg for, and which would reestablish disci pline in their ranks. A decisive victory of the Catholics in the legislative elections, would therefore be something neither so easy nor so close at hand as people might believe.

But, you may be told, the Catholics, who

form the great mass of the nation, have on their side the advantage of numbers, and little by little, with the help of the liberal moderates, they would constitute a majority favorable to the rights of the Church and the Holy Sec. Suppose that this eventuality should come to pass-and, we repeat, there are reasons to believe that it could not be realized very soon-would this without difficulty to give weight to its de cisions, and to act upon the Government in such a way as to force it to the concessions which the Holy See considers as indispensable for the solution of the question? In any other country, perhaps; but in Italy, the Italy of today, it is not so easy to answer in the affirma tive. The Italian radical party, which forms the majority of the Governmental party, is es sentially a revolutionary party brought into power through violence, a party that would stop at no means or methods to maintain it-self in power. We remember the part played by the riots in the streets during the formation of official Italy. It would certainly not head tate to have recourse to that last resource the day when its present position might become publicans the republic is the divine right. which ought to be placed above the will of the people clearly manifested through universal suffrage, so for the Italian radicals, the end of the temporal power, and Rome the capital. constitute an immutable dogma; or, according to the expression even of King Humbert himself. "an intangible conquest," upon which no majority, however legally constituted, has the right to lay a hand. Who knows that riots, organized by a party which understands that business, would not break out upon all points of the peninsula the day when the Catholic majority should manifest its determination to do justice to the Pope? Who does not remember the events in Delgium and the excesses which the liberal beigians committed when they found that power was about to slip from their hands? The Italian radicals would do a hundred times more.

Rome, Aug. 6.-To demand participation in the parliamentary elections with a view to ameliorate the regime installed at Rome is

Official Italy of the present day is a government constituted without the Catholics and against the Catholics. A place in it cannot possibly exist for them. They cannot participate in it. and. above all, remain in it, except by breaking the present bonds of this political organization.

From the point of view of the religious question, strictly considered, we admit that a Catholic minority might in certain cases render valuable services and guard more or less efficaciously the rights and interests that are threatened; but Participation would be con-sidered as the funeral of the Roman question. Whatever its ability and its good intentions might be, a Parliamentary Catholic party would perhaps find itself unable to cope with the audacity and the terrorism of factions, and to bring about the solution that is claimed by the Pope. Participation therefore in such a case could only result in displaying this weak-

ness and in losing the benefit of these thirty years of reserve.

One party only would derive a considerable

rofft from the falling into line of the Catholies, and it is precisely the party that is most nanimeus and loudest in its claims for it, and that is the moderate liberal party. This party is at the present time in full dissolution. Each day increases its retreat and multiplies its de leat. Radicalism has broken its squares and captured the greater portion of its troops. I is now merely a staff without soldiers. It hopes that Participation may furnish it with the battallons which it needs so badly. These men, in general devoted to monarchical insti tutions, understand the immense advantages which the participation of the Catholics would bring to the present régime. It would mean the constitution, so long dreamed of and so vainly sought for. of a conservative party able to oppose a strong resistance to the encroachments of radicalism. If we see with difficulty the assistance that might be brought to the final solution of the Pontifical cause by the formation of a Catholic group in the Chamber, it is not with difficulty that we see the profits which would be derived from it by the monarchy of Savoy. It would be for official Italy the most powerful re-enforcement of the consolidation of its work. They would lure the Oatholies by encessions and promises, which they would take care not to keep, and at the same time they would exploit their support and their aid against the revolutionary parties, to the profit of a regime which is founded upon the violation of the most essential rights of the Holy Rea. Would it be wise, would it be noble for the Catholies to play the part of dupes. I was going to say of accomplices?

Certainly we are far from being partisans of what is called the policy of cataclysms and catastrophes, the policy of the excess of evil. We know very well that if Providence, in its infinite ways, brings good out of evil, Christians certainly should not collaborate in this evil on account of the good that might come out of it. It is sometimes dangerous to leave to revolutions the care of arranging things and solving questions; but we may be permitted to observe that in Italy the situation presents itself under aspects quite different from those of other countries. Everything to precarious to-day in Europe, alliances as well as conquests; but nothing is more so than the position of the Italian Government in Rome, because it depends upon a single battle won or lost. In the next wat the other belligerent countries will stake one or more of their provinces; Italy must stake her capital. But that is not saying enough. By his imprudent and adventurous policy it is the very existence of Italy that the King plays at the present time. Outside of the vicissitudes of a war, there are in the Constitution of Italy at the present time sufficient germs of destruction and dissolution to make the Catholies pause before coming to an unconditional alliance without serious guarantees. One of the forces of the Papacy, and its adver saries know this very well, is precisely that invincible patience which nothing tires, because

the future belongs to it. "Time is a great master; he regulates many things," says somewhere a hero of Corneille. That is especially true of this secular institu tion of the Papacy which has passed through so many trials and so many storms: and afte all the tempests have left it more vigorous than ever. History has witnessed other for eign powers than that of official Italy installed in the Eternal City. How long have they remained there? But, we shall be told the Italy of to-day is not the Italy of Mazzini; it is a regularly constituted power which has upon its side the adhesion of Europe and that of the great majority of the Peninsula. It is for the Catholies to resign themselves to this fact, against which nothing can prevail.

Are the people who use this language quite sure of what they say? Each passing day reveals the contrary, and brings to view more and more the weakness of this revolutionary régime, which is corrupted by a thousand deleterious and destructive internal maladies; which is obliged to seek support abroad; to prop itself up by the Triple Alliance, in order to continue without danger its war against the Pops and the Church. Let it not be forgotten that the Roman question is the cord around the neck of official Italy. There will be no scarcity of people who, if their interests and pull it vigorously at the first opportunity. Providence has made of Rome the one and predestined seat of the Papacy. Official Italy stubbornly denies this fact. Up to the present day history has proved that the Papacy is in the right. Nothing prompts us to believe that the Italy of King Humbert has a mortgage upon coming events. The past years of its Governcontrary: for never has official Italy been so much exposed to danger from the interior as well as the exterior, and never has there been amussed against her so much discontent, hatred, and envy. All this goes to prove that if the Holy See continues to wait, the reason is that it has its motives, and that by maintain ing a prudent and wise attitude of expectation and reserve, it has upon its side the experience of the past and the logic of reason.

It is not absolutely true, moreover, that Abstention can produce, from the point of view of the future of the young generation, all the pernicious effects which the partisans of Participation speak of. According to the reports nor so profound as these people would have us believe. In all the universities there exists a group of Catholic young men who hold firmly to their faith and their convictions. Public life at the present time in Italy has so few attractions that even liberal youth abandon The danger is not there. Politics in Italy is a profession for those only who have no other means of existence, so profound is the disgust and the indifference to public affairs; and this is the fruit of the presentregime. What the Italian Catholic youth have to do-and it is only just to say that they are beginning to understand it is, while waiting for the time when the political arens shall be opened to them, to exercise their activity in the social and intellectual domain. by clubs, associations, and the press to put themselves in a position to play a prepon-derant and efficacious part in the melde of events. If the Catholics do that, politica influence will come to them of itself at the proper time. The political activity of the Ger man Centre is much admired and referred to: but it is forgotten that this activity has only been the logical result, the natural efflores cence of that intense life which it has displayed for twenty years upon all fields of science, religion, arts, and social life, By developing here the roasons which are offered against Participation, it must be re-

membered of course that these arguments possess a value essentially contingent, and that the Holy See can at any time take any initiative that may appear to it opportune according to the course of events. A change might come over the situation in Italy which would modify the respective attitude of the would modify the respective attitude of the parties and enable the Vatican to recall the non expeal and to permit the Catholics to make the trial.

If we were to express by a formula the difference of the points of view which the two themes inspire, we would say this: For the adversaries of Abstention, Participation is the means, if not the only means, at least the principal means, of surviving at the solution of the conflict between the Papacy and the Italian State. The others think, on the contrary, that Participation ought to be not the means but the price of this reconciliation. Up to this very day the Holy See has expressed implicitly this language to official Italy: "Do justice to me: settle the Roman question, and then I will throw no obstacle in the way of the Catholics baking part in public affairs."

If the Holy See has maintained the non-expedit, the reason is that apparently it has considered that the advantages which would be derived by the Italian Church from Participation would not be counterhalanced by the damages and the peris that might result from it for the Roman question. Now the interest of the universal Church ought necessarily to be preferred before that of a particular church. The Holy See, before pronouncing the final word, determines to wait. Everything that has happened up to the present time in Italy and abroad proves that it has acted wisely. Buffon says that patience is genius. Rot always, but it is very often success. parties and enable the Vatican to recall the

THE SCIENCE OF FISHES. THE MARINE BIOLOGICAL LABORA-

TORY AT WOOD'S HOLL. Government Supervision of an Important Firld of Research-Finhes Under the Microscope-Their Forms and Rabits Studied-An Interesting Institution.

Every year when the weather becomes warm, and the annual pilgrimage begins to the sum-mer resorts, students from all parts of the country, from California and Dakota and the Carolinas, turn toward Wood's Holl to study in the well equipped Marine Biological Laboratory there. This place is admirably adapted for its purposes by nature as well as by its buildings and equipment. No richer spot for collecting exists on the whole Atlantic coast, while the student can have his summer relaxation here at the same time that he is adding to his store of knowledge. The south winds, which elsewhere are so hot, come to the south shore of Massachusetts straight from the Atlantic, and are consequently cool and refreshing. On the other hand the water itself is warm, so that here, as at Newport, one can bathe without that shock which so frequently occurs in the colder waters north of Cape Cod. There are two large laboratories at Wood's Holl. One of them, the United States Fish Commission, is the property of the general Government. Here, during the summer, students are at work upon the various problems directly or indirectly connected with the supply of food fishes. In the winter the students are mostly gone, but the Commission is not idle. Its energies are now turned to the hatching of cod and lobsters and other food fishes. The eggs are obtained by millions, and are placed in ingeniously arranged hatching jars, so that they are under the most favorable conditions. Then, when the young are able to shift for themselves, they are turned loose in the sea to grow and fatten, and perchance to be caught for food.

The Fish Commission is a Government institution, and to study there one must have an invitation from the Commissioner: the other Wood's Holl station, the Marine Biological Laboratory, is open to all upon payment of the proper fees. The Fish Commission is chiefly for the solution of economic questions con nected with food fishes; the Marine Biological

Laboratory is devoted to pure science. The building of the Marine Biological Laboratory is simple and without any architectural pretensions. A rectangular two-story building about 30 by 60 feet, with an L 20 by 40, can be made severely plain, and yet this shingled structure in one way exhibits true architectural merit, in that it is well adapted for its purposes. At the first sight one is struck by the size and number of the windows and, considering the nature of the work done, there is none too much light. The main entrance leads directly into the lower laboratory. which occupies nearly the whole of the ground floor. Along either side of this large room are arranged large laboratory tables, each accommodating four students, while in the centre of the room is another table with the aquaria, always of interest to thevisitors.

The animals in these aquaria are changed almost daily. This change is not intentional, but follows from the nature of the work done. These tanks serve as reservoirs for the animais studied, and as the students are working -now on lobsters, now at starfishes, and again upon clams-the stock on hand must vary. Then, again, any strange or unusual form taken is placed here on exhibition; so that one day may be seen here sticks covered with goose barnacles, each one, as Huxley expresses it, kicking its food into its mouth with its feet; another day there are numerous equid, with their constantly changing hues darting hither and thither by their peculiar force-pump propeller. One year the tanks contained almost constantly one or more of the beautiful Portuguese men-of-war, the float colored red and blue, while below the green tentacles are in constant motion. But beware of these beautiful streamers, for where they touch the skin they raise a bright red ridge

touch the skin they raise a bright red ridge which smarts as if burned.

The students in this lower laboratory are elementary workers. Some are college students, doing extra work in vacation time; some are teachers in high schools, while not infrequently dignified college professors have been glad to come here and obtain instruction. The non-scientific reader may be interested in the way in which they study.

Each morning there is a lecture in the adjacent tecture room by some one of the teaching ferce. This may be either a somewhat detailed account of the structure of some animal or plant, to be studied later by each student in the laboratory, or it may be an account of the relatives and relationship of some form already studied, for knowledge gained here is to be valued accordingly as it is comparative. After the lecture, which is usually about an hour long, the students return to the laboratory and begin the day's work. Suppose it be some large animal like a lobster which is to be

atory and begin the day's work. Suppose it be some large animal like a lobster which is to be studied. It is first examined from every side. Its legs are pulsed off and studied, then the pays are compared with the legs, and then the feelers with both legs and jaws; and from these the listrations strive to lead the feelers with look legs and jaws; and from these the listrations strive to lead the feelers with look legs and jaws; and from these the listrations strive to lead the feelers with look legs and strength organs are studied. The way the muscles act, the peculiar grinding mill in the stomach, the brain and the nervos are all investigated with the scalpel. When the heart and blood vessels are taken up the student is shown how to illi them with starch and vernillions oc that the finest tubes can be traced by their bright red color into every part of the body. In the same way star fishes and sea under studied and starts and the little are classed and student is made to draw, more or less artistically, all the parts seen, for it is a well-know fact that when a person has to draw exactly what he sees, he will see far more than he otherwise would, especially when the accuracy of the drawing may be questioned lister by the instructor.

When the animals are small simple dissection is no longer sufficient, and the compound microscope is necessary. With these tils lartory far well equipped, her instruments before the sufficient of the structure are readily seen; but if, as is frequently the case, the animal be opaque, the study is complicated of salt water under the microscope. When the principal points of structure are readily seen; but if, as is frequently the case, the animal be opaque, the study is complicated of salt water under the microscope. When the principal points of structure are readily seen; but if, as is frequently the case, the animal be opaque, the study is complicated of salt should be trained and to the more of the salt do read to the more of the salt do read to the more of the salt do read to th

would prove exceedingly dry to the layman. An example, however, may be outlined to

would prove exceedingly dry to the layman. An example, however, may be outlined to serve for all.

Only a few years ago most students were engaged in describing new species or in atudying the structure of those already described. Now, one great problem is, How does that structure arise? So at Wood's Hall the tracing of the changes from the egg to the adult naturally occupies a prominent place. Each animal has its own peculiarities of development, and so only ageneral outline can be given, in which only the salient features can be touched upon.

The student obtains the animals whose history he wishes to trace and from them obtains the eggs and milt. These are mixed together, and from this moment every instant of the history is of interest. Most of the eggs studied are greatly different in general adpearance from the familiar egg of the bon. They are usually small, frequently microscopic in size, while many of them are perfectly transparent. In this lattice case certain features of development are studied with comparative ease, for, placed beneath the microscope, most of the internal changes can be readily seen. In other eggs which are perfectly opaque only the modifications of the external surface can hus be seen, and for internal structure the same process of section cutting described above must be resorted to

The typical egg we are describing is a more sphere of that much-talked-about and yet little understood sunstance, protoplasm. After it is fertilized it divides into haives, and each haif into quarters, and so on, again and again, until the egg is converted into a ball of small spheres or cells, the whole much resombling a blackberry in its general appearance. Then these cells become arranged with layers, an outer which is to grow into skin and nervous system, an inner which will make stomach, Ac, and a middle layer, to be later differentiated into muscles, blood, blood vessels, fat, &c, and in the case of vertebrates, into bone and carrilage.

system, an inner which will make stomach, ac, and a midle layer, to be later differentiated into muscles, clood, blood vessels, fat, dec. and in the case of vertebrates, into bone and cartilage.

As has already been said, in this embryological stready been said, in this embryological study, section cutting plays an important part, and the worker soon acquires great facility in all its many steps. It is not a difficult task to cut an egg one one-hundredth of an inch in diameter into fifty or a hundred sections and have these sections pass through the egg in any desired manner. Plain sections show but little under the microscope, but the paturalist has found out that the different portions of every animal and every plant till for each of the little balls or ceils of the egg described above a part which stains more deeply than the reat.

This is called the nucleus, and the more it is studed the more important does it appear to be. It is apparently the bearer of all hereditary tendencies. Again, solutions of gods properly used stain nerves bright purple, so that the students can trace their finest terminations; ozonic acid blackens fat, and blue de Lyon renders the most minute bit of bony tissue bright blue. So, naturally, this staining plays a most important part in investigation.

For much of the material used the students do their own collecting. This gives them an outing and also serves to teach them something of the liables of marine animals. The laboratory ha

Dregging is an interesting operation, for it always is more or less of a lottery. The launch steams out into the Sound until it reaches some point which seems favorable, and then the dredge is put down. This is a rectangular fron frams with sharp edges to scrape the bottom and a bag behind to catch everything that is scraped up. When the dredge is down that is scraped up. When the dredge is down that is scraped up. When the dredge is down that is scraped up. When the dredge is down that is scraped up. When the dredge is down that is scraped up. When the dredge is down the contents of the bag poured into sieves, and after washing away the mud, etc., the remainder is carefully picked over and the treasures either immediately preserved or taker back to the aquarian the laboratory. Usually the dredge will contain a considerable variety of forms, but occasionally a haul will showonly one or two species.

The daily life of the students is easily described. They find rooms with the various families in the village, while the laboratory runs a mess hall, where all obtain their meals. The laboratory is open daily from 7 or 8 in the morning until 10 or later at night.

The general outline of the work has been given, and there are but few things to interrupt it. Among these is the daily service by most of the students, and besides there are given once or twice a week a course of evening lectures by the teaching force of the laboratory, or by some visiting naturalist who chances to be present. These lectures are highly regarded, and rightly so, for nowhere else in America has ever been given a course of seisntific lectures by such masters as here.

The stutistics of the laboratory are here summed together. It is a national rather than a local institution, as is seen by the distribution of its students. In the four years that the haboratory has been open 156workers have been present, coming from twenty-three States, from Canada, and Japan. The laboratory are here summed to get the same instruction that they have been engaged for research, which will be open winter and summer with its regular corps of investigators, with every facility for investigation and publication, in short, a station second to none in the world. For such the beginning has already been made. Land is already bought and the foundation of the endowment laid.

In closing, a word must be said to those to whom the laboratory owes its present shape and progress. Without making invidious distinctions we may say that to Prof. Alpheus Hyatt it owes its inception; to the Woman's Educational Association of Boston it owes the funds which gave it a start, and to Dr. C. O. Whitman of Clark University (recently appointed to Chicago University) it is indebted for its able direction. There are also many more who have worked as disinterestedly as these for its progress and welfare.

J. S. Kingsley.

J. S. Kingsley.

A STORY OF EARL ROSEBERY, His Interest in a New York Bootblack and What Came of It.

One day in 1873, when Earl Rosebery, Gladtone's newly appointed Secretary of State for Foreign Affairs, was in New York inspecting American institutions, he passed through City Hall square, and, noticing that his shoes needed polishing, he stopped in his walk and backoned to a small bootblack. The bootblack apparently was a bright boy, for after a while Earl Rosebery asked him his name.

"Pat." was the reply. The Earl questioned him further and asked him where he lived. "At Father Drumgoole's, at 53 Warren

street," Pat replied. The Earl was ourlous to know what sort of a place Father Drumgoole conducted. So he went to the storehouse at 53 Warren street, where he found the kind old Father engaged in his mission of caring for the homeless boys n New York-a mission which is now so well known to charitable people in the city.

The Earl was greatly pleased with the Father's work, and was also interested in Pat. He asked Father Drumgoole to investigate Pat's history, and said if the boy was found worthy he himself would educate Pat for the pursuit most suited to him. Father Drumgoole found that Pat's mother was a widow with

pursuit most suited to him. Father Drumgoole found that Pat's mother was a widow with seven children.

After Earl Rosebery returned from a trip to Washington he called on Father Drumgoole and gave him money to clethe Pat and enable him to begin his studies. The Earl also gave Father Drumgoole a sum of money for the mission. The Earl was much impressed by Father Drumgoole and his carnest work, and as he was about to sail for England he wrote the following letter:

Barkoors House, Dec. 17, 1873.

My Dran Father, I connot get away to asy good by to you today, but I must in the first place send my address to you. 2 hersely squara, London, W.—that you may write and tell me how your good work is getting on and how Pat be progressing, and what meney from time to time you want for him, and, in the second place, i must express my thankfulness to have been brought face to face with you and with your noble work. I have never laft you or your house without feeling better for it, and without feeling that I had got an insight into a histor and holer life than men are generally privileged to lead or tudeed capable of leading. It hope you may long be sparsed for it, and that into propering and streamthening every year more and will you devole a little of Pat's maney to having him photograph in a rich frame, which is still at the mission.

In accordance with the plans of Father Drumgoole and the Earl, Pat, who was then IS years old, was pinced in St. Francis Navier's College, in Sixteenth street. His professors were pleased with Pat, but he did not live to fulfil expectation; the died two years later.

On Tuesday night the liev. Father McNichol of the Drumgoole and the story as told allowe. Earl lossobery is an Episcopalian, and at the time of the incident was 25 years old. The incident seemed noteworthy to Father McNichol, and to him is due credit for the story.

IN THE WARD BOOK

The Chaff, the Dice, the Green Mint, an

Every American man-of-war carries within her iron or wooden sides a little community constituted as no other American community is constituted. The ward room of such a ship s a tiny communistic society in which, nevertheless, precedent, precedence, and rank are peculiarly important. The navy of the United States is a curiously conservative organism in which ancient usage. sometimes based upon features of naval architecture long since archaic, still holds its place. The ward room is a little world to itself, far enough removed from that other curious world, with its single autocratic nhabitant, the Captain's cabin, to be freed from awe and somewhat emancipated from red tape, but still a world of different habits and standards from the everyday world ashore.

The ward room is a club of equals who are yet divided one from another by nice gradations of rank. The "Young Doctor," as the second surgeon is sometimes called, may or may not call the executive officer by his last name without the addition of "Mr." That depends upon the degree of assurance, aplomb, and worldly knowledge with which the Young Doctor may be blessed, but whatever the degree of familiarity between the gentleman at the head of the table and those at the foot, the knowledge and consciousness of gradations in rank are ever present in the air if not in the mind. There is in the ward room a code of etiquotte that is puzzling and even perilous to a landsman. Perhaps every man at the table calls the chief engineer "Chief." and with

landsman. Perhaps every man at the table calls the chief engineer "Chief." and with acknowledged propriety, but the visiting landsman, a stranger to that functionary, would commit a gross breach of citiquette in saluting him in that fa-hion.

The ward room of an American man-of-war is made up of men ranging in years from 21 to 60; they are above the average of well-dressed, well-fed men in education and intelligence; they have seen vasily more of the physical world, at least, than most of their fellow elitzens, and when ashore and isolated a denizer of the ward room often proves an extremely entertaining companion. But the stapies of talk in the ward room is chaff. All officers realize this, and the wisost of them abstain from any attempt to change the conditions. The landsman finds it all vastly amusing, but acarcely realizes that it is almost a necessity. The object most abhored in the ward room mess is the bore, whether he be the solemn hore, the sentimental bors, the argumentative bore, the story-telling bore, or, worst of all, the presching bore. Chaff is thresome, if you will, disgusting, perhaps, after a time, but if nobody chaffed, surely somebody would preach. Men who are liable to be cooped up together for three mon has a table, without the chance of getting a cable's length apart, realize the necessity of self-protection against the man of facts, the man of hobbies, the man who talks long on his favorite topics. Hence the ward room takes refugo in chaff, and existence is at least bearable.

Few first impressions survive a long cruise, and the ship that comes through the journey from this shore to Rio by any of the North Atlantic with no new enmitties in the ward room and few litusions shattered must be officered by angels rather than men. The experienced executive officer who looks down the ward room table at the double row of faces—staff to the right, line to the left—on the day after a ship has gone into commission, must take a cynical pleasure in conjecturing what mutual animosities that double ro

Lieutenant will have aired his theory as to thermostatics, the paymaster will have vented his last quotation, and even the picturesque profanity of the junior engineer will have become commonplace, and everybody will have fallen back upon chaff. After all, chaff is the best thing. You soon reach the bottom of every man's knowledge and come to know the smallest mental idiosyncracy of a neighbor who lives so near that you know every time he takes a bath behind his little silken curtain. But chaff is freshened from time to time. That young ensign is sure to got into mischlef at Malta or into trouble at Suez. Somebody may take a glass too much to get into mischief at Malta or into trouble at Suez. Somehody may take a glass too much at the complimentary dinner of the English regimental mess at Cape Town, and even old saliors are liable to do queer things at St. Helena after the long run from the Cape. To be sure, there is a certain monotony in the missaventures of young ensigns and the excapades of full Lieutenants, but it is interesting to an old hand to note the variations of individual conduct under given conditions, and so there is always food for chaff.

Routine is at once the curse and the blessing of the ward room. Everybody rises in haste

Routine is at once the curse and the blessing of the ward room. Everybody rises in haste and buckels on belt and sword, when the beat to quarters is heard, to come down the companionway fifteen minutes later and shift out of warlike accountements with the smiling assurance to the casual landsman that the country is safe. No immate of the ward room would venture on that time-honored pleasantry but for the protecting presence of the landsman. The later is always welcomed with

IN HONOR OF COLUMBUS.

THE RECENT CELEBRATIONS AT HULLYA AND PALOS. he Discoverer's Fingship Santa Maria Reproduced in Every Detail-lis Quaint

Guns and Equipments - Very Imposing Demonstrations by Many Naval Powers, HUELVA. Aug. 1 .- In the festivities with which Huelva celebrated the four hundredth anniversary of Columbus's departure from this harbor on his first voyage of discovery the chief interest centred in the reproduction of the Santa Maria, the ship, or caravel as it is incorrectly called, which carried Columbus to his fortunes. Her companion ships, the Pinta and Niña, which were real caravels, are to be reproduced by the United States for the Chicago Exposition. It is a pity they should have been absent from the Spanish celebration, although the Santa Maria is expected at Chicago. The latter was built at the Government shippards of San Fernando, near Cadiz, under the direction of a special Archmological Commission charged with the exactness of the details. It cost about \$15,000 to complete her, notwithstanding the fact that much of the material was in stock and the workmen were ready to hand in the yards. That the Nife and the Pints are not yet built is no fault of Lieut. Little of the U. S. Navy, who has been in Madrid for many months for this purpose.

During the stay of the Santa Maria in Cadia, Fernandez Duro, the critical historian of Columbus, who is also a Captain of the Spanish navy and an authority on nautical matters of three centuries ago, gave the following information: First of all, the Santa Maria is not a caravel. The Pinta and Niña were caravels, but the Santa Maria was a ship. For this reason the Archieological Commission looked for the model of a ship and not of a caravel. The one which served them most was a picture in the Cathedral of Burgos. where very curious details can be seen. On this ship there is lacking the most elementary furniture for the convenience of those on board. There is no sign of a kitchen. On a square box filled with sand a few braziers were placed, in which wood or chargoal was used for cooking. There is no question of nammocks, the present form of which, as used on Spanish vessels. Fernandez Duro thinks was borrowed from the Indians in America. The crew of the Santa Maria had to sleep on the floor of the deck, presumably on heaps of straw. The cannon in use were of the kind called falconets and lombards. The falconets are early examples of breech-loaders, and were the beginning-though in an elementary form-of the modern Krupp system. The 'loft" on the mainmast is much like that in modern ships of war. It was for military purposes, and from it during battles projectiles were thrown. In the Captain's room there is but one bed, which was, of course, for Columbus, and in the reproduction it is covered with a crimson siik coverlet, because Columbus recorded that he gave such a cover to one of . the Indian chiefs in his first voyage to America. No detail has been neglected.

Lieut. Cardona, who is a member of the Archwological Commission, said that the greatest difficulty in reproducing the antique artillery of lombards and falconets was to induce the workmen in the Government Arsenal to leave these arms rough and rude, as they were at a time when instruments of precision were unknown. The lombard is made up of three long staves of hammered iron, which form the barrel. They are strengthened exteriorly by sixteen fron rings, with rivets of the same metal, arranged so that the gases of the powder cannot escape through the points of union. It is a curious fact that the carriages on which the lombards were mounted had one side shorter than the other, so that when the lombard was discharged the recoil would bring it round parallel with the keel of the ship. This, which appears a defect, was designed in reality to avoid the work of bringing the piece of artillery into position for reloading, and was all the result of calculation. The projectiles of the lombards were balls of stone. Those of the falconets were Iron, covered with lead. Columbus measured time when on board ship by means of several instruments. One was a wooden apparatus called the ballestilla; another was the astro-labe, with which to find the meridian and

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